

What is claimed is:

1. A method for permanently dyeing hair which comprises subjecting said hair to a number of treatments, having a set time interval between each two consecutive such treatments, wherein each treatment comprises steps a.) and b.) below:

a.) contacting said hair, for a period of about 5 seconds to about 5 minutes with a recently made mixture of:
 part ai: dye intermediates in water with a gelling agent at alkaline pH, and
 part aii: oxidizing compound in water at acidic pH ;

b.) rinsing said mixture from said hair with water;

and wherein said number of treatments is between about 2 to about 30; and wherein said set time interval between each two consecutive treatments is between about 8 hours and 30 days.

2. A method according to claim 1, wherein said dye intermediate is selected from the group consisting of m-aminophenol, p-phenylene diamine, p-toluenediamine; p-phenylenediamine; 2-chloro-p- phenylenediamine; N-phenyl-p-phenylenediamine; N-2-methoxyethyl-p- phenylenediamine; N,N-bis-(hydroxyethyl)-p-phenylenediamine; 2-hydroxymethyl-p-phenylenediamine; 2-hydroxyethyl-p-phenylenediamine; 4, 4'-diaminodiphenylamine; 2,6-dimethyl-p-phenylenediamine; 2-isopropyl-p- phenylenediamine; N-(2-hydroxypropyl)-p-phenylenediamine; 2-propyl-p- phenylenediamine; 1,3-N, N-bis-(2-hydroxyethyl)-N, N-bis (4-aminophenyl)- 2-propanol; 2-methyl-4-dimethylaminoaniline; p-aminophenol; p- methylaminophenol; 3-methyl-p-aminophenol; 2-hydroxymethyl-p-aminophenol; 2-methyl-p-aminophenol; 2-(2-hydroxyethylaminomethyl)-p-aminophenol; 2-methoxymethyl-p-aminophenol; and 5-aminosalicylic acid;

catechol; pyrogallol; o-aminophenol; 2, 4-diaminophenol; 2,4,5-
 trihydroxytoluene; 1,2,4-trihydroxybenzene; 2- ethylamino-p-cresol; 2,3-
 dihydroxynaphthalene; 5-methyl-o-aminophenol; 6-methyl-o-aminophenol; and 2-
 amino-5-acetaminophenol; 2-methyl-1- naphthol; 1-acetoxy-2-
 5 methyl-naphthalene; 1,7-dihydroxynaphthalene; resorcinol; 4-chlororesorcinol; 1-
 naphthol; 1,5-dihydroxynaphthalene; 2,7-dihydroxynaphthalene; 2-
 methylresorcinol; 1-hydroxy-6-aminonaphthalene- 3-sulfonic acid; thymol (2-
 isopropyl-5-methylphenol); 1,5-dihydroxy-1,2, 3,4-tetrahydronaphthalene; 2-
 chlororesorcinol; 2,3-dihydroxy-1,4- naphthoquinone; and 1-naphthol-4-sulfonic
 10 acid; m-phenylenediamine; 2-(2,4- diaminophenoxy)ethanol; N,N-
 bis(hydroxyethyl)-m-phenylenediamine; 2,6- diaminotoluene; N,N-
 bis(hydroxyethyl)-2,4-diaminophenetole; bis(2,4- diaminophenoxy)-1,3-propane;
 1-hydroxyethyl-2,4-diaminobenzene; 2-amino- 4
 hydroxyethylaminoanisole; aminoethoxy-2,4-diaminobenzene; 2,4-
 15 diaminophenoxyacetic acid; 4,6-bis(hydroxyethoxy)-m-phenylenediamine; 2,4-
 diamino-5-methylphenetole; 2,4-diamino-5-hydroxyethoxytoluene; 2,4- dimethoxy
 1,3-diaminobenzene; and 2,6-bis(hydroxyethylamino) toluene; m-aminophenol; 2-
 hydroxy-4- carbamoylmethylaminotoluene; m-carbamoylmethylaminophenol; 6-
 hydroxybenzomorpholine; 2-hydroxy-4-aminotoluene; 2-hydroxy-4-
 20 hydroxyethylaminotoluene; 4,6-dichloro-m-aminophenol; 2-methyl-m-
 aminophenol; 2-chloro-6-methyl-m-aminophenol; 2-hydroxyethoxy-5-
 aminophenol; 2-chloro-5-trifluoroethylaminophenol; 4-chloro-6-methyl-m-
 aminophenol; N-cyclopentyl-3-aminophenol; N-hydroxyethyl-4-methoxy-2-methyl-
 m-aminophenol and 5-amino-4-methoxy-2-methylpheno; 2-dimethylamino-5-
 25 aminopyridine; 2,4,5,6-tetra-aminopyrimidine; 4,5-diamino-1-methylpyrazole; 1-
 phenyl-3- methyl-5-pyrazolone; 6-methoxy-8-aminoquinoline; 2,6-dihydroxy-4-
 methylpyridine; 5-hydroxy-1,4-benzodioxane; 3,4-methylenedioxyphenol; 4-
 hydroxyethylamino-1,2-methylenedioxybenzene; 2,6-dihydroxy-3,4-
 dimethylpyridine; 5-chloro-2,3-dihydroxypyridine; 3,5-diamino-2,6-
 30 dimethoxypyridine; 2-hydroxyethylamino-6-methoxy-3-aminopyridine; 3,4-

methylenedioxyaniline; 2,6-bis-hydroxyethoxy-3,5-diaminopyridine; 4-hydroxyindole; 3-amino-5-hydroxy-2,6-dimethoxypyridine; 5,6-dihydroxyindole; 7-hydroxyindole; 5-hydroxyindole; 2-bromo-4,5-methylenedioxyphenol; 6-hydroxyindole; 3-amino-2-methylamino-6-methoxypyridine; 2-amino-3-hydroxypyridine; 2,6-diaminopyridine; 5-(3,5-diamino-2-pyridyloxy)-1,3-dihydroxypentane; 3-(3,5-diamino-2-pyridyloxy)-2-hydroxypropanol and 4-hydroxy-2,5,6-triaminopyrimidine, or combinations thereof.

10 3. A method according to claim 1, wherein part ai, prior to mixture with part aii, has a pH of about 8 to about 10.

15 4. A method according to claim 1, wherein part aii, prior to mixture with part ai, has a pH of about 3 to about 5.

5. A method according to claim 1 wherein part ai comprises:

20 A.) from about 0.05 % to about 1.0% of a dye intermediate;

B.) from about 0.1% to about 0.5% of a coupler; and

C.) from about 1 % to about 99 % of an aqueous base.

25 6. A method according to claim 1 wherein part aii comprises:

A.) from about 1 % to about 99 % of an aqueous base;

B.) from about 0.5% to about 2.5% of a volatile silicone; and

C.) from about 0.1 % to about 5 % of an oxidative compound.

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7. A method according to claim 1 wherein said period for contacting said hair is between about 1 minute and 3 minutes.

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8. A method according to claim 1 wherein said set time interval between each two consecutive such treatments is between about 1 day and about 3 days.

10 9. A method according to claim 1 wherein said hair has combing index in the range of 1.1 to 4.0.

15 10. A method according to claim 1 wherein said hair has combing force in the range of 5 to 55 gm force.

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11. A method according to claim 1 wherein said hair has break stress in the range of 0.05 to 0.3 gm force/micron.

12. A method according to claim 1 wherein said composition delivers delta E of 0.1 to 65 on blonde hair and delta E of 0.1 to 8 on brown hair.

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13. A method according to claim 1 wherein said hair has a ratio IR absorption at 1040cm⁻¹/1240cm⁻¹ in the range of 0.01 to 1.5.

14. A method according to claim 1 wherein said oxidative compound is selected from the group consisting of hydrogen peroxide, urea peroxide, melamine peroxide, sodium perborate and sodium percarbonate.

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15. A method according to claim 1 wherein part ai comprises from about 35% to about 98.9% water.

10 16. A method according to claim 1, wherein the mixture of part ai and part aii has a neat viscosity of from about 500 cps to about 60,000 cps at 26.7degrees C., as measured by a Brookfield RVTDCP with a spindle CP-41 at 1RPM for 3 minutes.

15 17. A method for maintaining hair color through the use of a permanent hair dye which comprises subjecting said hair to successive treatments, having a set time interval between each two consecutive such treatments, wherein each treatment comprises steps a.) and b.) below:

20 a.) contacting said hair, for a period of about 5 seconds to about 5 minutes with a recently made mixture of:

part ai: dye intermediates in water with a gelling agent at alkaline pH;

part aii: oxidizing compound in water at acidic pH;

b.) rinsing said mixture from said hair with water;

25 and wherein said set time interval between each two consecutive treatments is between about 8 hours and 30 days.

30 18. A method according to claim 1 wherein said dye intermediate in part ai is present at about 0.1% to about 1%.

19. A method according to claim 1 wherein said oxidizing compound in part aii is present at about 2 % to about 5 %.

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20. A dispenser for dispensing simultaneously or nearly simultaneously part ai and part aii according to claim 1, which comprises:

- 10 A.) a means for holding part ai and part aii in physically separate locations;
B.) a means for protecting part ai and part aii from air prior to dispensing;
C.) a means for dispensing part ai and part aii in equal amounts and in physical proximity to each other.

15 21. A method according to claim 1 wherein part ai and part aii are mixed by hand.

22. A method according to claim 1 which comprises rinsing said mixture of part ai and part aii from said hair with water in a shower.

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23. A composition for permanently dying hair which comprises a mixture of:

part ai

25 a) about 0.1% to about 99.9% of an alkaline aqueous base with a gelling agent ;

b) about 0.1% to about 1% of a dye intermediate;

c) about 0.1% to about 1% of a coupler and

part aii

30 a) about 1 to about 5% of an aqueous base;

b) about 1 to about 5% of an oxidizing compound.

24. A composition in accordance with claim 23 wherein said gelling agent is Carbopol 940.

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